

7 September 2005

Securities and Exchange Commission  
Judiciary Plaza,  
450 Fifth Street,  
Washington DC 20549

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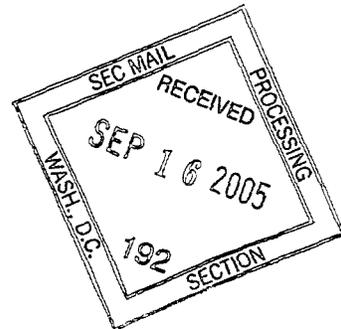
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**Re: Bionomics Limited - File number 82-34682**

Please see attached provided pursuant to Section 12g3-2(b) file number 82-34682.

Yours sincerely

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*pm*: Jill Mashado  
Company Secretary

*DLW 9/19*

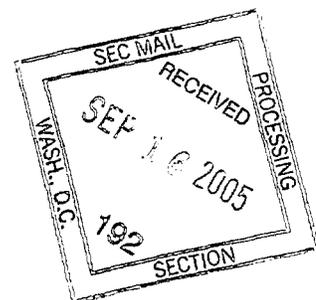
## **"In the long run the best biotech's are platform plays"**

Deborah Rathjen  
CEO & Managing Director  
Bionomics Limited  
[www.bionomics.com.au](http://www.bionomics.com.au)



## **Agenda**

- What does the ASX have to say?
- Examples of platform technologies
- Examples of companies with a platform technology
- How to leverage platforms to build a sustainable drug discovery company
- Conclusion



## ASX: Points to consider when valuing biotech companies

### Platform technology:

- Has the potential to yield a range of many different drug candidates,
- A company that has platform technology is generally more valuable and less volatile.



## ASX: Points to consider when valuing biotech companies

- Look at how many products the company has in development:
  - Diversity across a range of product types
  - Spread of drug candidates through each trial stage



## Important Platform Technologies

- Recombinant DNA (1974–78)
- Monoclonal Antibodies (1975)
- Genetics and Genomics Technologies (1990s)
- Microarrays (1994)
- Bioinformatics (1998)
- Combinatorial Chemistry (1995)
- High Throughput Screening (1996)



## Australian Examples

- EvoGenix
- Alchemia
- Starpharma
- Bionomics



## Bionomics Limited

- Exploiting proprietary genomics-driven discovery platforms, ionX® and Angene®, and proprietary diversity orientated chemistry, MultiCore® to discover and develop small molecule therapeutics
- Therapeutic focus:
  - CNS disorders – Multiple Sclerosis, anxiety, epilepsy
  - Cancer – vascular targeting and anti-angiogenesis



## Bionomics Assets

- Compounds in development for cancer (vascular targeting and anti-angiogenesis), multiple sclerosis, anxiety and epilepsy
- Approximately 1% of the human genome covered by Bionomics IP.
  - First in world to discover a gene which causes epilepsy
  - First in world to create an animal model of inherited epilepsy
  - Over 160 new genes associated with cancer blood vessel growth discovered
  - IP includes genes which cause cancer cells to grow
- Presenting a vast array of commercial opportunity.
  - Diagnostics
  - Drugs



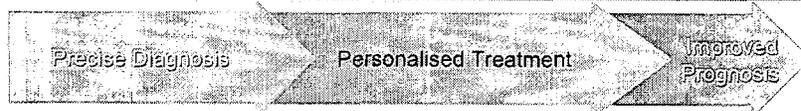
## Bionomics' Strategy

### KEY ELEMENTS:

- Drug discovery and development: using the platforms to build a robust pipeline
  - Compounds under development for cancer, epilepsy, anxiety and multiple sclerosis
- Partnering/out -licensing non-core assets: using the platform to generate revenue
  - Epilepsy diagnostics licensed and now on the market in US
- M&A building on our existing core skills: using the platform to rapidly evaluate strategic opportunities
  - Consolidation of the market through the acquisition of Iliad Chemicals



## Revenue generation from diagnostics



- US market estimated US\$44 million pa
- SMEI is a severe form of childhood epilepsy
  - Up to 18% mortality and up to 50% show developmental delay and brain damage
- Early diagnosis difficult and treatment is disappointing
  - Certain drugs can make seizures worse
- Bionomics' SMEI Diagnostic Test meets clinical needs
  - Leads to early and precise diagnosis
  - Enables choice of appropriate treatment strategies



## What Iliad brought to Bionomics

### Multicore® Chemistry Platform

*Chemical diversity*

*Rapid lead optimization of multiple drug-like cores*

*Improved patent position*

*Low cost synthesis*

#### **Kv1.3 inhibitor for multiple sclerosis**

Small molecules

Easy syntheses

Potent (EC50 70nM)

Closely aligned with BNO core competency in ion channels

#### **Combretastatin A4 analogs for vascular targeting**

Analogues identified on three scaffolds with up to 40X greater potency than CA4

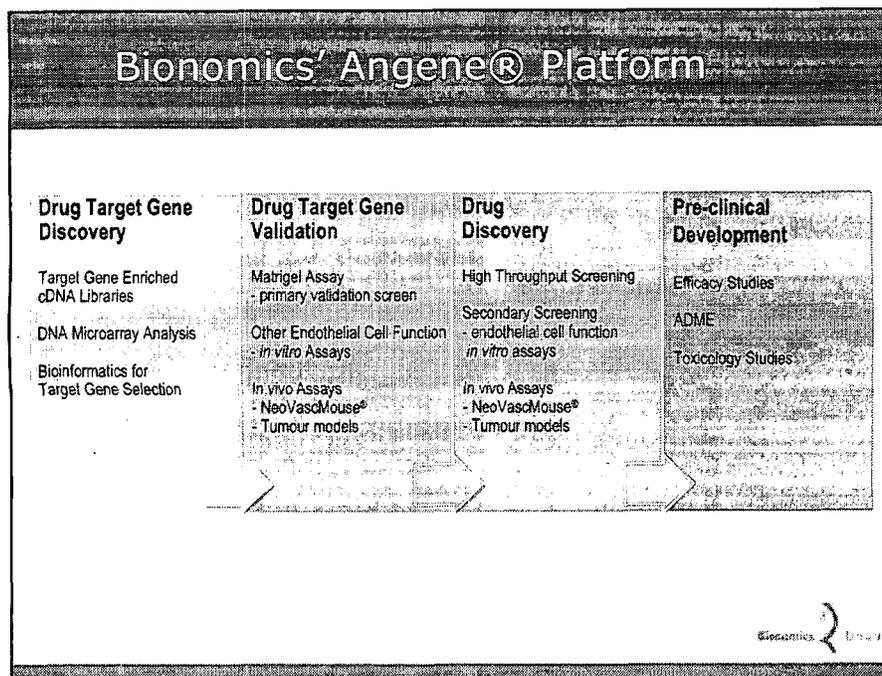
Closely aligned with BNO competency in angiogenesis

Bionomics  Inc. 2011

## MultiCore® Platform

- ◊ Rapid synthesis of diverse and complex molecular structures
- ◊ Excellent control over molecular properties
- ◊ Drug discovery tool – a rapid way to generate drug leads
  - ◊ Enriched libraries
  - ◊ More effective optimisation of hits
- ◊ Scalable synthesis and analoging of natural products

Bionomics  Inc. 2011



## Bionomics' drug discovery programs targeting large markets with unmet needs

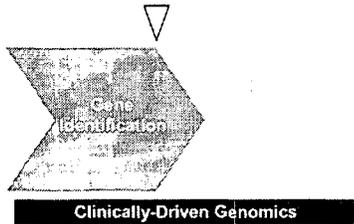
### Breast Cancer

- Breast cancer affects 9% of women in western world
- This translates into 200,000 new cases pa in US with 25% mortality rate
- Breast cancer drug sales in 2002: US\$5.9 billion

 Bionomics

## ionX<sup>®</sup>: Bionomics' CNS Discovery Platform

Novel Genes  
Pharmacogenomics  
Database



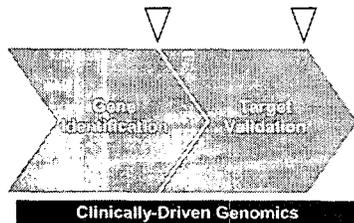
- Clinically driven program
  - Over 2,000 patients
- Gene variations in over 30 ion channel subunits
- Pharmacogenomics database
  - Genotype
  - Phenotype
  - Treatment response



## ionX<sup>®</sup>: Bionomics' CNS Discovery Platform

Novel Genes  
Pharmacogenomics  
Database

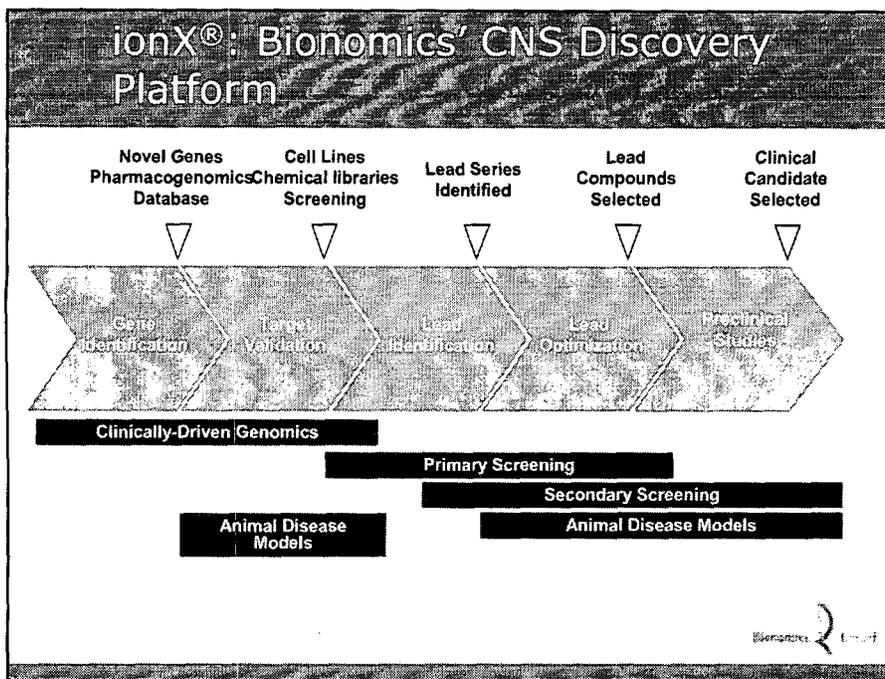
Cell Lines  
Chemical libraries  
Screening



- Electrophysiology platform to validate target
- Transgenic animal models incorporating human mutations
  - Clinically relevant animal models

Animal Disease  
Models





## Bionomics' pipeline targets large CNS markets with unmet needs

### Epilepsy

- US\$6 billion and growing at 17% pa
- Up to 3% of the population have epilepsy
- Many drugs are poorly tolerated and have many side-effects
- 30% of patients don't gain control of seizures with current drugs

### Anxiety

- US\$14.5 billion in 2003
- Approximately 19 million Americans suffer from an anxiety disorder
- Patients need medications which are non-sedating, non-addictive and don't affect memory

Bionomics Ltd



## Bionomics Pipeline 2006

		TARGETS/ SCREENING	CHEMISTRY	PRECLINICAL	CLINICAL
CNS	Kv1.3 Multiple Sclerosis	██████████	██████████	██████████	
	GABA Epilepsy	██████████	██████████	██████████	
	GABA Anxiety	██████████	██████████	██████████	
	Other CNS	██████████			
CANCER	Vascular Targeting	██████████		██████████	
	BNO69 Breast Cancer Angiogenesis	██████████	██████████		
	Other Angiogenesis	██████████			

Bionomics  Ltd.

## Bionomics Strength

- Robust pipeline underpinned by proprietary platform technologies
- A business model that capitalizes on the value of genomics, and proprietary chemistry for drug discovery and development
- Potential to create numerous revenue generating partnerships:
  - Access to chemistry
  - Access to discovery platforms
  - Drug discovery partnerships
  - Licensing of validated drug targets
  - Licensing of lead compounds
  - Diagnostics

Bionomics  Ltd.

## In summary

Platform companies have the potential to:

- Rapidly discover drug candidates
- Build robust pipelines
- Get multiple products to market – either directly or indirectly

These are all attributes which enhance the investment proposition



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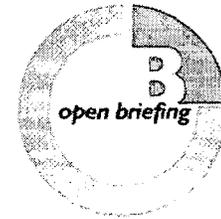
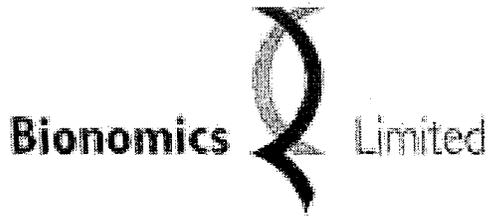
Yours sincerely



Per: Jill Mashado  
Company Secretary

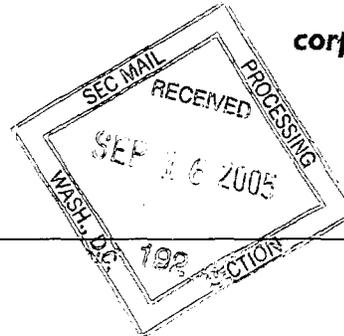


Attention ASX Company Announcements Platform  
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[corporatefile.com.au](http://corporatefile.com.au)

Bionomics Limited  
31 Dalglish Street  
Thebarton, South Australia 5031



**Date of lodgement:** 07-Sep-2005

**Title:** Open Briefing®. Bionomics. MD on Business Update

**Record of interview:**

**corporatefile.com.au**

Bionomics Limited recently presented at an Australian biotech conference. What is the strategic logic behind platform technologies? Why is it important for Bionomics and others in the industry?

**CEO Dr. Deborah Rathjen**

Platform technologies are important in the value creation of biotech companies. They can provide an avenue for biotech companies to rapidly generate a number of drug candidates for different therapeutic indications. This gives them the opportunity to build a robust pipeline and mitigate the risks associated with developing a single therapeutic drug candidate. Clearly, a single-product biotech company isn't as sustainable and valuable an investment proposition as a biotech company that has a proprietary platform technology through which a number of products can be developed.

Platform technologies can provide a number of commercialisation streams. For example, you can take compounds developed from a platform technology into the clinic and grow the value of the platform technology as you advance that compound's development.

In addition, platform technologies can lead to licensing agreements in relation to non-core assets, such as in our case with diagnostics. They can potentially result in significant commercialisation opportunities. By out-licensing, you can drive near-term revenue growth and by developing in-house clinical programmes, you can grow the longer term upside for the company.

How are you leveraging your platform technologies to build a sustainable drug discovery company?

**CEO Dr. Deborah Rathjen**

Key to value creation in our particular case are three proprietary platform technologies: MultiCore®, ionX® and Angene®.

MultiCore® is a diversity orientated chemistry platform technology, which gives us the potential to rapidly generate a large number of compounds in a unique intellectual property area. In addition, the ability for the resulting compounds to be synthesised very easily reduces development costs and provides a base for the rapid development of prospective drug candidates.

We're utilising ionX®, our discovery platform in Central Nervous System (CNS) disorders, to identify genetic targets for the diagnosis and treatment of epilepsy. Through ionX® we're also able to turn compounds developed from our MultiCore® platform into drug candidates for epilepsy, anxiety, multiple sclerosis and other CNS ion channel disorders. In ionX®, we're using a set of tools that are proprietary to Bionomics such as animal models.

Angene® is used to identify cancer drug prospects based on angiogenesis (formation of new blood vessels) and within this platform, we have a set of assays which allow us to select anti-cancer drugs specifically targeting blood vessels in tumours. It's a powerful platform which allows us to identify drugs that are more potent and selective for tumour blood vessels whilst potentially producing fewer side effects in patients with cancer.

Our platforms have allowed us to build our pipeline of compounds for different therapeutic indications at different stages of development, thereby balancing the risks associated with a single development programme. In our cancer programme, we have compounds that will be in the clinic in the latter half of FY06 whilst in our CNS programme (in anxiety and in multiple sclerosis), we have compounds that are still in the early stages of pre-clinical development. In addition, we have out-licensed diagnostic discoveries to generate nearer term revenue.

**corporatefile.com.au**

Your EGM presentation in June reiterated your plan to build a substantial market cap company within 3 years. Given that more than six months after you first discussed this plan at an investor presentation your market capitalisation remains relatively small, are you still on track to achieve this objective?

**CEO Dr. Deborah Rathjen**

We are on track to achieve our objective. In FY05, we laid the ground work and we're now focused on realising the value of our acquisitions and capitalising on the initiatives undertaken in FY05. We achieved the goals we had set in FY05 on time, such as the licensing of our SMEI diagnostic test which has helped boost total commercial income to over \$1 million compared with about \$68,000 in FY04.

Our investor presentation highlighted our growth strategy through a number of avenues: internal development, partnering or out-licensing and growth through

acquisitions. We've made good progress in advancing our cancer, multiple sclerosis and anxiety compounds as a result of the investments we made in establishing our infrastructure and in hiring an experienced drug discovery team.

The combination of Iliad and Bionomics has been highly synergistic and has allowed us to more rapidly advance our cancer compound through preclinical evaluation, drawing on the strengths of our platforms and the scientific expertise of our combined businesses.

**corporatefile.com.au**

It's been a couple of months since your acquisition of Iliad Chemicals Pty Limited. How have you progressed the integration of this business?

**CEO Dr. Deborah Rathjen**

We undertook a vigorous process of ensuring the acquisition progressed as scheduled and that integration would proceed smoothly. We've completed the integration just two months after the acquisition on 1 July 2005. The project teams are fully formed and R&D plans and financial plans in place.

**corporatefile.com.au**

Since its acquisition in March 2005, how is Neurofit tracking against expectations?

**CEO Dr. Deborah Rathjen**

We've started to see Neurofit contributing strongly to our programmes, adding value in two ways: firstly, by supporting our anxiety development programme through the provision of data in anxiety testing and the testing of side effects resulting from compounds, and secondly, through income generation from its contract research business.

We're very pleased with the contribution from Neurofit in the areas of CNS disorders and peripheral nervous system conditions; it has enabled us to move forward very quickly and is tracking in line with our expectations. Its customer base consists of large pharma companies and biotech companies based in Europe and North America.

**corporatefile.com.au**

In your last Open Briefing in May, you mentioned value creation and significant cost savings through the merger of Iliad with your Bionomics and Neurofit businesses. What synergies have become evident so far?

**CEO Dr. Deborah Rathjen**

The key synergistic benefit is the ability to progress our pipeline more quickly through the combined expertise of our three businesses. We're achieving strong synergies through the scientific expertise of our project teams in cancer and CNS disorders. In terms of cost savings, we've been able to reduce administrative costs.

**corporatefile.com.au**

Cash stood at \$9 million at the end of the June 2005 quarter. How will you employ your cash reserves? What's your current monthly cash burn and how does it compare with your cash burn before the Iliad acquisition?

**CEO Dr. Deborah Rathjen**

We'll use our cash reserves on the continued pre-clinical development of our cancer, anxiety and multiple sclerosis compounds. We've historically had a high level of R&D expenditure commensurate with a business of our type, typically spending around 75 percent of cash on R&D and 25 percent on administrative costs and overheads.

We said at the time of our acquisitions that we were focused on ensuring they wouldn't increase our cash burn and our R&D expenditures. Our cash burn and R&D spend in FY06 should remain consistent with that statement.

**corporatefile.com.au**

Bionomics presented data on its proprietary angiogenesis targets at the BIO2005 Conference in Philadelphia, USA, in June 2005. Could you explain the significance of this data and the implications on your clinical development programme?

**CEO Dr. Deborah Rathjen**

The data which came from our collaboration with the Louisiana Gene Therapy Consortium, showed that antibodies directed at BNO69 can be used to separate benign breast cancers from malignant breast cancers. In the testing of primary breast cancer biopsy material the antibody to BNO69 very clearly detected those cancers that were malignant.

We're continuing to develop this diagnostic opportunity through our collaborators. The data reinforces that our platform delivers diagnostic opportunities as well as therapeutic drug opportunities. We aim to commercialise the diagnostic applications of BNO69 as soon as possible. Whilst we will continue to advance BNO69 in drug discovery, our prime focus is on vascular-targeting compounds at this stage.

**corporatefile.com.au**

In June 2005, you presented the results of a clinical study on childhood epilepsy at an epilepsy research symposium. Could you update us on the commercialisation of your SMEI diagnostic test through licensing agreements with Athena Diagnostics and Genetic Technologies Limited?

**CEO Dr. Deborah Rathjen**

SMEI is a very serious condition. The children have a very poor prognosis with around 18 percent dying from seizures and around 50 percent suffering from brain damage as a result of the seizures. It's a very difficult condition to diagnose based on clinical indications alone because it's similar to other forms of epilepsy. A further complicating factor is that there are some drugs that could worsen the seizures.

Our SMEI diagnostic test focuses on children below the age of 2, offering the opportunity for early treatment based on the accurate diagnosis of SMEI.

We have licensed our SMEI diagnostic test to a speciality US-based neurology diagnostic company Athena Diagnostics and Australian-based Genetic Technologies Limited. Both companies have taken our diagnostic test to market; Athena in North America through their sales force which markets

ability to neurologists and genetic technologies through their own marketing capacity and through the GENDIA genetic testing group, a global organisation.

We also have ongoing discussions with other potential licensees in relation to this diagnostic test and we have a new diagnostic test for children with benign seizures. We're in discussions around licensing opportunities for this new diagnostic test. We have already completed clinical studies which led to the validation of this test and the test doesn't require regulatory approval at this point in time. We anticipate that through our licensees, as is the case with our SMEI test in North America, this new diagnostic test will be reimbursed through health insurance providers.

**corporatefile.com.au**

What will be your priorities in FY06?

**CEO Dr. Deborah Rathjen**

We'll focus on delivering the benefits of each of our acquisitions and making substantial progress in each of our key therapeutic discovery project in cancer, anxiety and in multiple sclerosis. Our priorities in FY06 are also to grow commercialisation revenues from our current licensing agreements in relation to SMEI diagnostic test as well as new licensing agreements which we hope to forge during the year.

**corporatefile.com.au**

Thank you Deborah.

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For previous Open Briefings with Bionomics Limited, or to receive future Open Briefings by e-mail, please visit [www.corporatefile.com.au](http://www.corporatefile.com.au).

For more information about Bionomics Limited, please visit [www.bionomics.com.au](http://www.bionomics.com.au) or call Deborah Rathjen on (08) 8354 6101.

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